

CLAIMS:

1. An adhesive composition, the adhesive composition comprising:
a plurality of cationic microspheres; and
a fluidizing medium effective for supporting fluid application of the adhesive
composition to a surface.
2. The adhesive composition of claim 1 wherein the cationic microspheres have a cationic charge that is permanently and individually bound to each cationic microsphere.
3. The adhesive composition of claim 1 wherein the cationic microspheres are derived in part from a cationic unsaturated vinyl monomer.
4. The adhesive composition of claim 1 wherein the cationic microspheres are derived in part from a C_N alkyl(meth)acrylate monomer where N is any integer ranging from 4 to 14.
5. The adhesive composition of claim 1 wherein the cationic microspheres are derived in part from an unsaturated vinyl comonomer.
6. The adhesive composition of claim 1 wherein the adhesive composition further comprises a cationic latex adhesive binder.
7. The adhesive composition of claim 1 wherein the adhesive composition further comprises a cationic surfactant.
8. An adhesive article, the adhesive article comprising:
a substrate; and
a coating of the adhesive composition of claim 1 on the substrate, the adhesive composition effective to allow positioning of the adhesive article on a first application surface and repositioning of the adhesive article on a second application surface.

9. The adhesive article of claim 8 wherein the adhesive composition is effective to allow the repositioning of the adhesive article from the first application surface to the second application surface without leaving any visible residue of the pressure sensitive adhesive on the first application surface, the visible residue being any residue that is visible to the unaided eye of a human being.

10. A method of making an adhesive article, the method comprising applying a coating of the adhesive composition of claim 1 on a substrate to form the adhesive article, the adhesive composition effective to allow positioning of the adhesive article on a first application surface and repositioning of the adhesive article on different application surfaces.

11. A mixture, the mixture comprising polymerizable substances, the polymerizable substances comprising:
at least one C_N alkyl(meth)acrylate monomer, where N is any integer ranging from 4 to 14; and
a cationic unsaturated vinyl comonomer.

12. The mixture of claim 11 wherein the at least one C_N alkyl(meth)acrylate monomer comprises iso-octyl acrylate.

13. The mixture of claim 11 wherein the polymerizable substances further comprise an unsaturated vinyl comonomer.

14. The mixture of claim 11 wherein the mixture further comprises a cationic latex adhesive binder.

15. The mixture of claim 14 wherein the mixture further comprises a cationic surfactant.

16. The mixture of claim 11 wherein the mixture further comprises a cationic surfactant.

17. The mixture of claim 11 wherein the mixture further comprises a catalyzation initiator.

18. The mixture of claim 11 wherein, upon polymerization of the polymerizable substances is effective to form cationic microspheres.

5 19. An adhesive, the adhesive comprising:
a polymerized product of polymerizable substances, the polymerized product
adhesively repositionable between different application surfaces, the
polymerizable substances comprising:
at least one C_N alkyl(meth)acrylate monomer, where N is any integer
10 ranging from 4 to 14; and
a cationic unsaturated vinyl comonomer.

20. The adhesive of claim 19 wherein the polymerized product comprises polymeric elastomeric microspheres that render the adhesive pressure sensitive.

15 21. The adhesive of claim 19 wherein the at least one C_N alkyl(meth)acrylate monomer comprises iso-octyl acrylate.

20 22. The adhesive of claim 19 wherein the polymerizable substances further comprise an unsaturated vinyl comonomer.

23. The adhesive of claim 19 wherein the repositionable pressure sensitive adhesive further comprises a cationic latex adhesive binder.

25 24. The adhesive of claim 19 wherein the repositionable pressure sensitive adhesive further comprises a cationic surfactant.

30 25. The adhesive of claim 19 wherein the adhesive, when subjected to static angle testing on a surface of a painted steel panel, following coating of the adhesive as an adhesive stripe about 18 mm wide and about 33 mm long on a paper substrate at the rate of about 0.65 grams of the adhesive per square foot (7.0 grams per square meter) of the adhesive stripe, detaches from the

surface of the painted steel panel about 300 seconds after being adhered to the surface of the painted steel panel.

26. The adhesive of claim 23 wherein the adhesive, when subjected to static angle testing on a surface of a painted steel panel, following coating of the adhesive as an adhesive stripe about 18 mm wide and about 33 mm long on a paper substrate at the rate of about 0.55 grams of the adhesive per square foot (5.9 grams per square meter) of the adhesive stripe, detaches from the surface of the painted steel panel about 240 seconds after being adhered to the surface of the painted steel panel.

27. An adhesive article, the adhesive article comprising:
a substrate; and
a coating of the adhesive of claim 19 on the substrate, the adhesive effective to allow positioning of the adhesive article on a first application surface and repositioning of the adhesive article on a second application surface.

28. The adhesive article of claim 27 wherein the adhesive composition is effective to allow the repositioning of the adhesive article from the first application surface to the second application surface without leaving any visible residue of the pressure sensitive adhesive on the first application surface, the visible residue being any residue that is visible to the unaided eye of a human being.

29. A method of making an adhesive composition, the method comprising:
causing a plurality of cationic microspheres to exist in a fluidizing medium to yield the adhesive composition, the fluidizing medium effective for supporting fluid application of the adhesive composition to a surface.

30. The method of claim 29 wherein the cationic microspheres have a cationic charge that is permanently and individually bound to each cationic microsphere.

31. The method of claim 29 wherein the cationic microspheres are derived in part from a C_N alkyl(meth)acrylate monomer where N is any integer ranging from 4 to 14.

32. The method of claim 29 wherein the cationic microspheres are derived in part from an unsaturated vinyl comonomer.

5 33. The method of claim 29, the method further comprising incorporating a cationic latex adhesive binder in the adhesive composition.

34. The method of claim 33, the method further comprising incorporating a cationic surfactant in the adhesive composition.

10 35. The method of claim 29, the method further comprising incorporating a cationic surfactant in the adhesive composition.

15 36. An adhesive article, the adhesive article comprising:
a substrate; and
a coating of the adhesive prepared in claim 29 on the substrate, the adhesive effective to allow positioning of the adhesive article on a first application surface and repositioning of the adhesive article on a second application surface.

20 37. The adhesive article of claim 36 wherein the adhesive composition is effective to allow the repositioning of the adhesive article from the first application surface to the second application surface without leaving any visible residue of the pressure sensitive adhesive on the first application surface, the visible residue being any residue that is visible to the unaided eye of a human
25 being.

38. A method of making adhesive cationic microspheres, the method comprising:
initiating reaction of a polymerizable mixture to form the adhesive cationic microspheres, the polymerizable mixture comprising:
30 at least one C_N alkyl(meth)acrylate monomer, where N is any integer ranging from 4 to 14; and
a cationic unsaturated vinyl comonomer.

39. The method of claim 38 wherein the at least one C_N alkyl(meth)acrylate monomer comprises iso-octyl acrylate.

5 40. The method of claim 38 wherein the polymerizable mixture further comprises an unsaturated vinyl comonomer.

41. The method of claim 38 wherein initiating reaction of the polymerizable mixture comprises:

10 including a catalyzation initiator in the polymerizable mixture; and
triggering catalyzation initiation by the catalyzation initiator.

42. The method of claim 41 wherein triggering catalyzation initiation by the catalyzation initiator comprises warming the catalyzation initiator to cause free radical generation by the
15 catalyzation initiator.

43. The method of claim 38, the method further comprising including a cationic surfactant in the polymerizable mixture.

20 44. A method of using the adhesive cationic microspheres of claim 38, the method comprising uniformly mixing the adhesive cationic microspheres with a cationic latex adhesive binder to form an adhesive composition.

45. The method of claim 44, the method further comprising including a cationic
25 surfactant in the polymerizable mixture.

46. The method of claim 45, wherein the adhesive composition, when subjected to static angle testing on a surface of a painted steel panel, following coating of the adhesive composition as an adhesive stripe about 18 mm wide and about 33 mm long on a paper substrate at the rate of about
30 0.65 grams of the adhesive composition per square foot (7.0 grams per square meter) of the adhesive stripe, detaches from the surface of the painted steel panel about 300 seconds after being adhered to the surface of the painted steel panel.

47. A method of using the adhesive cationic microspheres of claim 40, the method comprising uniformly mixing the adhesive cationic microspheres with a cationic latex adhesive binder to form an adhesive composition.

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48. The method of claim 47, the method further comprising including a cationic surfactant in the polymerizable mixture.

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49. The method of claim 48, wherein the adhesive composition, when subjected to static angle testing on a surface of a painted steel panel, following coating of the adhesive composition as an adhesive stripe about 18 mm wide and about 33 mm long on a paper substrate at the rate of about 0.55 grams of the adhesive composition per square foot (5.9 grams per square meter) of the adhesive stripe, detaches from the surface of the painted steel panel about 240 seconds after being adhered to the surface of the painted steel panel.

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50. An adhesive article, the adhesive article comprising:
a substrate; and
a coating of the adhesive composition prepared in claim 44 on the substrate, the adhesive composition effective to allow positioning of the adhesive article on a first application surface and repositioning of the adhesive article on a second application surface.

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51. The adhesive article of claim 50 wherein the adhesive composition is effective to allow the repositioning of the adhesive article from the first application surface to the second application surface without leaving any visible residue of the pressure sensitive adhesive on the first application surface, the visible residue being any residue that is visible to the unaided eye of a human being.